

U.S. Patent Application Serial No. **10/516,941**  
Amendment filed December 11, 2009  
Reply to OA dated August 24, 2009

**AMENDMENTS TO THE CLAIMS:**

Please cancel claim 6 without prejudice or disclaimer, amend 1, 2, 7, 8, 16, 18 and 19, and add new claims 20-23, as follows. This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claim 1 (Currently amended): A canister for preventing vehicle fuel vaporization, comprising:

a case containing in which a latent-heat storage type adsorbent composition ~~for canisters is placed in a canister case,~~

the latent-heat storage type adsorbent composition comprising an adsorbent and a heat-storage material;

the adsorbent being in the form of granules or powder having pores, and being capable of adsorbing vehicle fuel vapor,

the heat-storage material comprising a microencapsulated phase-change material, the phase-change material absorbing or releasing latent heat in response to temperature change, wherein

the average particle diameter of the heat-storage material is about 1/1000 to about 1/10 of that of the adsorbent,

the average particle diameter of the adsorbent is about 1  $\mu\text{m}$  to about 10 mm,

the average particle diameter of the heat-storage material is about 0.1 to about 500  $\mu\text{m}$ ,

the specific surface area of the adsorbent is about 500 to about 2500  $\text{m}^2/\text{g}$ ,

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the diameter of the ~~micro-pore~~ pores of the adsorbent is about 10 Å to about 50 Å, and  
the content of the heat-storage material is about 10 to about 100 parts by weight based on 100  
parts by weight of the adsorbent,

wherein the heat-storage material is adhered to and/or deposited on the surface of the  
adsorbent.

Claim 2 (Currently amended): A canister for preventing vehicle fuel vaporization according  
to Claim 1, wherein the adsorbent is activated carbon, activated alumina or a mixture thereof.

Claims 3-6 (Canceled).

Claim 7 (Currently amended): A canister for preventing vehicle fuel vaporization according  
to Claim 1, wherein the latent-heat storage type adsorbent composition is in a form of a molded  
article comprising the composition and a binder.

Claim 8 (Currently amended): A canister for preventing vehicle fuel vaporization according  
to Claim 7, wherein the molded article is in at least one shape selected from the group consisting of  
pellet, disc and block.

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Claim 9 (Withdrawn): A method for producing a latent-heat storage type adsorbent composition for canisters according to Claim 1 wherein the heat-storage material is adhered to and/or deposited on the surface of the adsorbent.

Claim 10 (Withdrawn): A method for producing a latent-heat storage type adsorbent composition for canisters according to Claim 1 wherein the heat-storage material is electrostatically adhered to and/or deposited on the surface of the adsorbent.

Claim 11 (Withdrawn): A method for producing a latent-heat storage type adsorbent composition for canisters according to Claim 1 wherein the heat-storage material and the adsorbent are uniformly mixed.

Claim 12 (Withdrawn): A method for producing a latent-heat storage type adsorbent composition for canisters according to Claim 1 wherein a slurry obtained by suspending the heat-storage material in a liquid medium is mixed with the adsorbent, and the mixture is then dried.

Claim 13 (Withdrawn): A method for producing a latent-heat storage type adsorbent composition for canisters comprising:

suspending a heat-storage material containing a microencapsulated phase-change material in a liquid medium to give a slurry, the phase-change material capable of absorbing or releasing latent heat in response to temperature change, and

spraying a liquid mixture containing the slurry and, if necessary, a binder, on the surface of the fuel vapor adsorbent.

Claim 14 (Withdrawn): A method for producing a latent-heat storage type adsorbent composition for canisters comprising:

molding a heat-storage material containing a microencapsulated phase-change material capable of absorbing or releasing latent heat in response to temperature change to produce a molded article, and

uniformly mixing a fuel vapor adsorbent and the molded article.

Claim 15 (Withdrawn): A method for producing a latent-heat storage type adsorbent composition for canisters comprising:

uniformly mixing a fuel vapor adsorbent, a powdery heat storage material containing a microencapsulated phase-change material capable of absorbing or releasing latent heat in response to temperature change or a slurry suspending the powdery heat storage material in the liquid medium, a binder and water, and

molding the resultant mixture to form a desired shape.

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Claim 16 (Currently amended): A canister for preventing vehicle fuel vaporization according to Claim 1, wherein the latent-heat storage type adsorbent composition for canisters is obtained by a method comprising:

suspending the heat-storage material in a liquid medium to give a slurry, and

spraying a liquid mixture containing the slurry and, if necessary, a binder, on the surface of the vehicle fuel vapor adsorbent.

Claim 17 (Canceled).

Claim 18 (Currently amended): A canister for preventing vehicle fuel vaporization according to Claim 1, wherein the latent-heat storage type adsorbent composition for canisters is obtained by a method comprising:

molding a heat-storage material to produce a molded article, and

uniformly mixing the adsorbent and the molded article.

Claim 19 (Currently amended): A canister for preventing vehicle fuel vaporization according to claim 1, wherein the latent-heat storage type adsorbent composition for canisters is obtained by a method comprising:

uniformly mixing a vehicle fuel vapor adsorbent, the heat storage material, the heat storage material being a powder or a slurry suspending the powdery heat storage material in the liquid medium, a binder and water, and

molding the resultant mixture to form a desired shape.

Claim 20 (New): A canister for preventing vehicle fuel vaporization, comprising:  
a case containing a latent-heat storage type adsorbent composition,  
the latent-heat storage adsorbent composition comprising an adsorbent and a heat-storage material;

the adsorbent being in the form of granules, powder or pellets having pores, and being capable of adsorbing vehicle fuel vapor,

the heat-storage material comprising a microencapsulated phase-change material, the phase-change material absorbing or releasing latent heat in response to temperature change, wherein

the average particle diameter of the heat-storage material is about 1/1000 to about 1/10 of that of the adsorbent,

the average particle diameter of the adsorbent is about 1  $\mu\text{m}$  to about 10 mm,

the average particle diameter of the heat-storage material is about 0.1 to about 500  $\mu\text{m}$ ,

the specific surface area of the adsorbent is about 500 to about 2500  $\text{m}^2/\text{g}$ ,

the diameter of the pores of the adsorbent is about 10  $\text{\AA}$  to about 50  $\text{\AA}$ , and

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the content of the heat-storage material is about 10 to about 100 parts by weight based on 100 parts by weight of the adsorbent,

wherein the latent-heat storage type adsorbent composition for canisters is obtained by a method comprising:

molding a heat-storage material to produce a molded article, and  
uniformly mixing the adsorbent and the molded article.

Claim 21 (New): A canister for preventing vehicle fuel vaporization according to claim 20, wherein the adsorbent is activated carbon, activated alumina or a mixture thereof.

Claim 22 (New): A canister for preventing vehicle fuel vaporization according to claim 20, wherein the latent-heat storage type adsorbent composition is in the form of a molded article comprising the composition and a binder.

Claim 23 (New): A canister for preventing vehicle fuel vaporization according to claim 20, wherein the molded article is in at least one shape selected from the group consisting of pellet, disc and block.